DeMaria, Eva

From: Zavala, Bernie

Sent: Friday, July 31, 2015 2:11 PM
To: Sheldrake, Sean; LIVERMAN Alex
Cc: DeMaria, Eva; Fuentes, Rene

Subject: RE: references on protocols for determining completion for groundwater treatment systems **Attachments:** GroundwaterAttainmentPolicy-finalsigned-11 25 2013.pdf; GWbriefing-OSWERfrontoffice-12

23 2014 Final.pptx; GWcompletion-recommendedapproach-final-8 4 2014.pdf; StatsTool-userguide_070114.pdf; Transmittal Memo for Recommended Approach for Evaluating Completion of GW at Monitoring Wells.pdf; GW_Stats_Tool_08112014.final.xlsm

Yes, I can provide the EPA's guidance documents on groundwater completion and could even answer some questions on the process. Attached are the documents. Sean you know where to find me if you need to find me and I would be happy answer questions that Eva or Alex may have on this subject. Rene' could also answer those questions too. I haven't take a site through this process yet but there are sites that could make it through this process in Region 10.

Bernie

Bernie Zavala, Hydrogeologist, LG LHG US EPA, Region 10 Office of Environmental Assessment 1200 6th Avenue, OEA-095 Seattle, WA 98101 Phone: 206-553-1562 Zavala.Bernie@EPA.Gov

From: Sheldrake, Sean

Sent: Friday, July 31, 2015 1:39 PM

To: LIVERMAN Alex

Cc: DeMaria, Eva; Zavala, Bernie; Fuentes, Rene

Subject: RE: references on protocols for determining completion for groundwater treatment systems

Alex, Sure thing!

Bernie, would you be able to share your latest presentation or paper on statistical methodology for determining when we're "done" relative to remedial goals? I know you've given several of these presentations on FHC in the region at at NARPM, etc. but I'll bet you've done more great things with the groundwater forum on this since. ODEQ has many plumes and PRPs that might benefit from using this type of standardized approach to gauge whether they are "done" on decades old plumes given the estuarine and seasonal variability that we're all used to on the Columbia and the Willamette.

Much appreciated.

Have a good weekend everyone.

S

Sean Sheldrake, Unit Diving Officer, RPM EPA Region 10, 1200 Sixth Ave., Suite 900; Mailstop DOC-01

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http://yosemite.epa.gov/r10/cleanup.nsf/sites/ptldharbor

http://www.epa.gov/region10/dive/206.553.6379 Dive Operations Center

206.369.7500 Dive Unit cell

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From: LIVERMAN Alex [mailto:liverman.alex@deq.state.or.us]

Sent: Friday, July 31, 2015 1:34 PM

To: Sheldrake, Sean **Cc:** DeMaria, Eva

Subject: references on protocols for determining completion for groundwater treatment systems

Hi Sean.

At our meeting on Wed, you mentioned an EPA guy (maybe out of Vancouver, WA) who wrote some papers evaluating groundwater systems and how to make a good determination of when you're done. Could you send a reference? We'd like to check it out. Thanks.

--Alex

L. Alexandra Liverman

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